ASL

Australian Society for Limnology Inc.

NEWSLETTER

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AUSTRALIAN SOCIETY FOR LIMNOLOGY INC.

The Australian Society for Limnology Inc. (ASL) is an Australian-based scientific society whose focus is the study and management of inland waters. The ASL was established in 1961, and has a current membership of over 650 researchers, managers, engineers, teachers and tertiary level students from all states and territories. Members have a strong professional interest in inland aquatic issues, including the maintenance of biodiversity, the maintenance and/or restoration of water quality, and the wise use of aquatic resources. The Society also has a strong interest in fostering the scientific and intellectual development of tertiary students.

The Society includes members working in government agencies, tertiary institutions and many industries related to aquatic resources. Through their daily activities, members have contact with local communities and are in a sound position to interpret and advise on inland water issues. The Society has a substantial knowledge base, and has assumed a responsibility to ensure that this is available to those who manage inland waters.

Accordingly, the charter of the ASL is to further our understanding of Australia's inland waters and to promote their wise use and sustainable management. In this manner we will contribute to the continued existence of this valued resource and the maintenance and enhancement of the quality of life for all Australians. The ASL regularly produces a newsletter with notes on limnological activities, articles of interest, book reviews and announcements of upcoming events likely to be of interest to Members.

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PRESIDENT'S REPORT

Dear ASL members,

Planning for our annual conference in Albury-Wodonga in the week of the 25th of September this year is now in full swing. This is one of three common vacation weeks per year for all Australian Universities, agreed upon by the Australian Vice-Chancellor's Committee. The executive had a vigorous debate over conference scheduling this year and we hope that choosing a common vacation week will allow more students and university researchers to come to the conference.

Leading up to the conference, nominations for the ASL medal and the Early Careers Award are due 3 months prior to the conference to be considered at this years' conference. We strongly encourage ASL members to consider nominating worthy colleagues - and re-submit previous nominations with current data. I have now been on both selection committees for 3 years and our regulations state that any one member can only serve on these committees for 3 years. Thus I have delegated the chair of the 2006 ASL medal committee to Richard Marchant, and the chair of the 2006 ASL Early Careers Award to Belinda Robson. Contact details for Richard and Belinda are in this newsletter.

In our last newsletter Michael Reid introduced himself as a new executive member. We are aiming to have all of our executive introduce themselves in the newsletter, as well as at the conference, as not all our members attend the annual conferences. Hopefully this will encourage you to perhaps contact your local representative and initiate regional chapter activities!

Since the last newsletter we have had one executive meeting - the minutes are published in this newsletter. Other ASL activities since I last wrote continue to focus on web page improvements and membership management. If you have not already done so: please remember to make sure that you are up to date with your membership dues!

I wish you all the best,

Sabine Schreiber (President)

Wanted:

Are you interested in learning about web page development and maintenance?

This is your chance!

Heather Shearer, our current web administrator, is seeking an assistant to help with web maintenance. Main activities would include translating the newsletter and other documents into htm so that they can be easily found and accessed.

Whilst we cannot offer payment for such a position, we are able to offer free ASL membership (or conference registration, should you wish to attend the conference).

Please contact Sabine Schreiber (current president) or Heather Shearer (web administrator) if you are interested in helping out or just would like some more details about what this involves.

We look forward to hearing from you!!!

ASL EXECUTIVE

ASL executive teleconference, 23 Feb 2006

Present: S.Schreiber, R.Marchant, M.Hart, S.Bunn, D.Ryder, M.Reid, S.Balcombe.

Apologies: A.Boulton, N.Rea, D.Warfe, S.Wild.

1. Matters arising from the ASL executive meeting in Hobart (1/12/05):

(a) S.Schreiber encouraged new executive members to provide short biographies to the newsletter. M.Reid has already done this and D.Ryder and S.Balcombe will do so for future newsletters.

(b) ASL history: A.Boulton is developing this initiative with other ASL members. No budget has been proposed yet but this is being actively considered.

(c) ASL medals: B.Robson has submitted a list of institutions with contact people at each for eliciting nominations for the early career award. The ASL medal requires a new committee for 2006. It was proposed that A.Boulton, P.deDeckker and R.Marchant form this committee with one other member from the executive (yet to be announced).

(d) Publication guidelines for the newsletter and web page: A.Boulton produced a statement (see minutes of last executive meeting, p.17 ASL newsletter vol 43, no4, 2005) that was approved by the executive.

2. ASL website: Since the middle of 2005 this has been managed by the Regional Institute in Sydney (TRI). The website should enable members to update their membership details, pay their dues (via credit card) and register and pay for the annual congress. Unfortunately, since mid December 2005 the site has not been working as it should and no or few payments have been received by the membership officer for 2005-06. The ASL paid $11,000 to TRI to set up the current website under a contract which expired at the end of December 2005. The ASL also has the option to take out a maintenance contract for @2400 per annum but has not done so yet. In the last few days the usability of the website has improved but the system still appears to lack stability.

The President emphasised that the ASL needs a stable and functioning website.

The executive agreed. S.Bunn stressed that the ASL should not pay TRI anything more until the current problems had been solved and the site was working properly. He also noted that these problems arose during the original contract and should be fixed as part of that contract. Other members suggested that the ASL should seek advice (and perhaps quotes for running the service) from another commercial web site provider. M.Hart, S.Schreiber and R.Marchant will investigate this option.

3. Webmaster: S.Schreiber advised members that H.Shearer is having difficulties administering the web site. Ongoing maintenance is difficult to do and it seems clear the society needs more help to keep the site up to date. It was suggested that free registration at the annual congress might be the way to tempt an ASL member to volunteer for this task.

4. Science meets Parliament (SMP): This is being held in March. D.Ryder is going as a representative of the University of New England. He will represent ASL at the same time and has promised to write a short account of the meetings with politicians for the newsletter.

5. Conference update: The 2006 congress will be held 25-29 Sept. M.Hart has been attending conference organising committee meetings. The budget is still being finalised and venues are being confirmed. Full details should be available soon and will be published in the next newsletter.

6. Newsletter: E.Mackenzie has just sent an email asking for submissions to the next newsletter by March 6. A quick poll of executive members revealed that even those who receive it electronically actually read it (some from cover to cover!).

7. The next teleconference of the executive will be held in late May.

An introduction from Stephen (Harry) Balcombe - ASL Queensland Representative

Hi there,

I have been asked to formally introduce myself as the current Queensland representative on the ASL Executive Committee. So here goes: I am Dr Stephen (Harry) Balcombe, a fish biologist employed by the Centre for Riverine Landscapes, Griffith University as a research fellow. My PhD (LaTrobe University, Albury-Wodonga) involved getting muddy and catching fish in River Murray billabongs. Since moving to Griffith eight years ago I have primarily worked on more muddy waterholes and fish, but in dryland river systems. Hence, my primary research interest is fish ecology in lowland rivers, particularly physical and biological factors that influence their distribution and abundance at various spatial and temporal scales. Other research interests include fish trophic ecology, particularly how fish living in highly variable environments cope with fluctuating food resources and how this translates into fish condition and ultimately its influence on recruitment success and subsequent population structure. I am currently working on two eWater CRC projects: "Theories and mechanisms of landscape ecology and hydrology" and "Flow regime, water quality and biological interactions between rivers and floodplains." These projects are in early stages of development, but will have some focus in dryland river catchments.

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An introduction from Darren Ryder - ASL NSW Representative

In the newly established tradition of letting the ASL members learn more about their representatives from each state on the executive, here is a short history of my academic life and role on the executive as NSW rep.

I completed my PhD thesis in 2001 (much to the delight of the ever patient Pierre Horwitz) on the role of prescription burning on the origin and fate of organic matter in south-west Australian peat swamps. However, my research career also began in 1998 when I scored a job as a Research Officer at CSU in Wagga to work on a project to develop biofilms as indicators for assessing the effectiveness of environmental flows in the Murrumbidgee River. I followed that project with an ARC postdoc at CSU that took our ideas on all things biofilm to other parts of the Murray-Darling Basin to see if it really was easy being green when the surrounding landscape was brown (or grey concrete). In 2003 I moved to UNE for a teaching position, and at present I am a senior lecturer, lucky enough to fill my day teaching units in ecosystem rehabilitation, aquatic ecology and limnology, checking out biofilms in a myriad of river systems under the guise of research, and trying to convert all undergraduates into limnologist.

I joined ASL in 1994, and after attending the infamous Rottnest conference where I presented my Honours research wearing shorts and thongs, I decided this was the society for me. There are three main reasons why I nominated for the executive in 2005, and they all revolve around my genuine wish to make a greater contribution to the society. Foremost (and linking back to the thongs), is the wish to maintain ASL as a collegiate forum for the exchange of ideas and research, and the creation of maintenance of links among a continuum of limnologists from managers to academics. Linked to this, is continuing to promote within ASL, and particularly at our conferences, a welcoming and non-threatening environment that fosters the scientific and intellectual development of postgraduate students. Finally, over the years as I saw the ASL executive develop policies on National and regional issues, I began to realise the important role that ASL plays in promoting the sustainable use of Australia's water resources.

Representing the interests of NSW limnos on the executive is often a difficult task as we are spread across the state from Sydney to numerous regional centres. Having a 'science in the pub' night to exchange ideas is a great idea for regional groups, and has worked well for those city folk. Wherever possible I try to visit groups and catch up with goings on, but I would welcome feedback on ways we could communicate among groups. Similarly, please contact me if you have issues or ideas

that you would like run by the executive. Being a member of the executive really is a great learning experience and an opportunity to make a contribution to the operation of the society. So at the next AGM, instead of listening to the deafening sound of chirping crickets when it comes around to nominating for the executive, consider throwing your arm in the air (and a seconder's arm too) and join the exec.

EDITOR'S NOTE

Material for publication in the Volume 44 # 1 newsletter (June Issue) is due by 9th June, 2006.

All articles should be forwarded, if possible, as unformatted text on a disk or via email.

ASL Home Page - http://www.asl.org.au/

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Membership Information and contact details of the Regional Executive Members can be found at the back of this Newsletter.

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ANNOUNCEMENTS

Attention Members

The 45th Annual ASL Congress is to be held in the border towns of Albury and Wodonga from Monday 25 to Friday 29 September 2006.

The Committee is busy organising various aspects of the Congress, but some little snippets include: A Plenary Session on *The Living Murray* (triple bottom line), planning for an Arts and Science exhibition, and a Trade Display. All information for the Congress will be posted on the ASL webpage by mid-May.

Brought to you by your Organising Committee: Ben Gawne, Rhonda Sinclair, Phil Suter, Paul Humphries, Margaret Hart, Sabine Schreiber, Rosie Busuttil and David Mitchell.

AUSTRALIAN SOCIETY FOR LIMNOLOGY medal
CALL FOR NOMINATIONS

The Regulations and Guidelines governing the ASL Medal are outlined on page 28.

The Australian Society for Limnology Medal commemorates Hilary Jolly, a founding member of the Australian Society for Limnology, and is presented to a person who in the opinion of the Society, has made an outstanding contribution to Australian Limnology. The ASL Medal (formerly the Jolly Award) has become ASL's (and arguably Australia's) most prestigious prize in limnology, considered by members to indicate overall scientific excellence and outstanding achievement.

Any person may be nominated for the Medal, but nominations may only be made by financial members of the Society. The nomination must be in writing and must be seconded by a financial member of the Society. Nominations must address the relevant selection criteria and a current copy of the nominee's CV should be included if deemed appropriate. Each nomination will be assessed by a Committee of ASL.

An award is not necessarily made each year. Nominations for the Medal are accepted at any time, but for the Medal to be made for that year, the nomination must be made three months before the Congress. For consideration for the 2006 Congress, the closing date for nominations is **Friday 30 June 2006**.

The full regulations governing the Medal are outlined below.

Nominations should be forwarded to Dr Richard Marchant, ASL Secretary, Museum of Victoria, GPO Box 666E, Melbourne VIC.

AUSTRALIAN SOCIETY FOR LIMNOLOGY
EARLY CAREER EXCELLENCE AWARD
CALL FOR NOMINATIONS

The Australian Society for Limnology Early Career Excellence Award aims to reward and encourage excellence by an early career limnologist who has contributed substantially to Australian limnology and/or aquatic ecosystem management. "Early career" is defined broadly as < 10 years of involvement in a limnological career, and could be judged as commencing with postgraduate work in limnology or membership of ASL.

Any early career researcher who is a member of ASL may be nominated for the Award. Nominations may only be made by financial members of the Society and will hold for up to three years after nomination. The nomination must be in writing, confidential, and must be seconded by a financial member of the Society. Nominations must address the relevant selection criteria and a current copy of the nominee's CV should be included to support the case if deemed appropriate. Each nomination will be assessed by a Committee of ASL.

An award is not necessarily made each year. Nominations for the Early Career Excellence Award are accepted at any time, but for the Award to be made for that year, the nomination must be made three months before the Congress. For consideration for the 2006 Congress, the closing date for nominations is **Friday 30 June 2006**.

Nominations should be forwarded to Dr Belinda Robson, Senior Lecturer in Aquatic Ecology, School of Ecology & Environment, Deakin University, PO Box 423, Warrnambool 3280.

The Regulations and Guidelines governing the ASL Early Career Excellence Award are outlined on page 31.

CALL FOR APPLICATIONS
BILL WILLIAMS TRAVEL SCHOLARSHIP (BWTS)

Applications are invited from research students for financial assistance in the form of the Bill Williams Travel Scholarship (BWTS) to enable them to present a paper or poster at an overseas conference, symposium or workshop. Bill Williams was a founding member of the Australian Society for Limnology, a leading pioneer of limnological research in Australia and widely known both inside and outside the country for his advocacy of the study of inland waters. He was very conscious of the need to encourage international exchange amongst limnologists, hence the inauguration of this scholarship.

The purpose of this scholarship is to enable research students to present their work in an international forum. Students who are carrying out research in any branch of limnology for a postgraduate degree (but not an Honours degree) are eligible to apply. The following rules apply:

1. Applicants must be current postgraduate students at any Australian University or have submitted their thesis within 12 months of applying for the BWTS.
2. Applicants must have been members of the ASL for at least 12 months and have current financial membership.
3. The BWTS will be awarded by a committee consisting of the ASL President, the ASL Treasurer, and a representative of the Bill Williams Memorial Committee.
4. Applications must include a written statement (no more than one A4 page) describing the research, its significance, and the stage that has been reached. The statement must be endorsed by the student's supervisor, who should confirm that the student has reached a stage where something useful can be presented. An abstract of the paper that the applicant proposes to present must also be included, and the presentation must acknowledge the scholarship in full. A CV should be included.
5. Applicants must submit a budget indicating the various costs of their trip. This should indicate how the scholarship will be used and what other support they hope to obtain. The intention is that the scholarship will cover a substantial amount of their costs, e.g. an airfare.

6. Award of the scholarship will be judged on: (i) significance of the work; (ii) originality and soundness of the research; (iii) the progress made; and (iv) ability to present a clear and concise statement of the study.

One scholarship will be awarded this financial year (2005-06) and the hope is to make an award once every two years. Applications should be sent to Dr R. Marchant, ASL Secretary, Museum of Victoria, GPO Box 666E, Melbourne VIC 3001 by **Friday 30 June 2006**.

POSTCARD

Just Add Water …. Bloody Hell* …. It Works!

* Apparently we can say this … it's now the official Australian motto.

So far, I have based my consulting career on two fundamental premises. Firstly, they will never implement all of the recommendations that I make. There will always be some social or economic impediment that means that some of the recommendations cannot possibly be put into practice. That's fine, as it always gives me an excuse that it's not my fault if something goes wrong (which somehow, when stated publicly, comes out as "That's fine, the environmental objectives for this river are the community's choice").

And in any case, secondly, they will never monitor the results of any recommendations that are implemented. So we will never actually know if something has gone wrong.

These premises allow me to make confident recommendations ….. confident in the full knowledge that I really don't know what I am doing. What's that? Well, none of us do, do we? Basically, what we do is assume that if we replicate some part of the natural environment – a particular part of a flow regime, or planting trees in a 20 metre wide riparian zone – then the environment will react in some predictable way. And that reaction will be towards a state that is "better" or "more natural" than it is now (e.g. higher fish numbers or better water quality).

But in reality, it still comes down to a large degree of guesswork. Of course, there are scientific publications and reports that can be used to back up these recommendations. Sometimes we can point to some study or another that suggests that making a certain environmental change is correlated with a particular response. Usually, this is the reverse of our recommendations – if you cut trees down along a river, then water quality falls and fish numbers decline, or something. Obviously, if we do the reverse, then the reverse response will occur. So we have science on our side (and the more publications that we can cite at the end of our report, the more confident we can be).

Of course, these studies will have been done in Kazakhstan, Guatemala or some Queensland tropical rainforest, a bit different from the Central Victorian ephemeral stream that you are looking at. So we are still guessing that the response will be the same.

Aside: we have circumvented our lack of knowledge by developing some clever terminology to protect ourselves. We now call implementing our recommendations part of an "Adaptive Management" cycle. Make the change, monitor it, and, if it doesn't work, do something else. Adaptive management is a simple admission that we really don't know what we are doing.

Quite simply, there haven't been enough large scale restoration projects that have been adequately monitored to make our environmental response predictions firm enough.

So when they actually implement recommendations and, gulp, actually monitor the response, every-one is usually scared to death. Despite the Adaptive Management mantra, it is our credibility as aquatic scientists and managers that is on the line. If it fails, we may somehow try to pretend that the results are interesting, or have contributed to the sum of human knowledge, or may have been confounded by unforeseen effects of the recent drought (always a good one). But just try to get them to invest yet more money into the next "experiment" .....

And the next time you suggest some recommendations for protecting or improving the freshwater environment, expect a particularly sceptical reaction.

Although I was not involved, returning flows to the Snowy River and monitoring the response was a particularly frightening experiment. Given the high political and public profile, and the amount of money that would need to be invested, imagine if it didn't work. Try standing up in front of a group of irrigators or investors and try to get better flows for some other river. "But it didn't work in the Snowy, why should we believe you now." Thank goodness they closed that Mowamba aqueduct again. Maybe we could craft some excuse out of that and deflect the blame onto some-one else.

So it is a pretty gutsy effort to follow through with recommendations and openly and publicly monitor the results of the implementation. And so it was with the 2005 Barmah watering project. After all the angst, scientific debate, community mistrust and anguish of the Living Murray Project, it came down to helping out a few "icon" sites along the Murray. The Barmah-Millewa Forest was one of these.

Sure, we "know" that forests like Barmah would have been regularly watered by natural flood events. And we "know" those natural flood events would have been accompanied by bird breeding, improvements in tree health and all those things associated with natural wetland flooding. And we "know" that regulation has reduced the frequency and duration of such natural flooding. And we "know" that

the health of the system is lower than what it would have been under natural conditions. So we "know" that the decline in health is due to the reduction in flooding frequency. And so we also "know" that reversing the flooding frequency decline will result in an improvement in condition.

So let's flood the Barmah with the little volume of environmental water that we have stored away, and see what happens. Sounds simple, but just have a look at the Barmah-Millewa Forest Asset Environmental Management Plan for 2005/2006 (available on the MDBC Living Murray website) to get an idea of what has gone into this.

But in October 2005, the time was right. Flows in the Ovens and Kiewa Rivers were just right. And some-one turned some valves here and there and water flowed into the wetlands. I can only imagine the number of fingers that were crossed at that moment. The wait must have been intolerable.

But soon, reports appeared in the newspapers (page 3 of the Age, no less) and websites for Government Departments, recreational groups and environment groups about the response to the floods. And it was joy all around. Booming Silver Perch, Golden Perch, waterbirds, frogs, tortoises and snakes were all reported breeding. The Moira grass was growing and flowering, and the river red gums displayed new growth. Everything that was predicted to happen seemed to actually happen!

I mention recreational groups as there is an angler report for the Murray at Barmah on a fishing website in January 2006 that said: "A real nuisance was the amount of Silver Perch that kept playing with our ... baits." I guess that counts as a positive piece of monitoring.

Phew! It worked! The fingers were uncrossed, if only to get a better grip on the glass of fine Australian sparkling white.

All I can say is a sincere and hearty congratulations and thank you to all involved. Congratulations as it must have been a long nerve-wracking road to get to this point, and the potential for failure at any step must have been high - as was the consequences.

And thank you as we can now safely advocate monitoring of our environmental recommendations, safe in the knowledge that the response, with a wink will be: "Don't worry about that - we trust you."

A BIT OF FUN ~ KEEP THOSE LETTERS COMING !!

Ask Onmil all the tricky limnological etiquette questions you really want answered!!

Dear Onmil

I'm interested in rehabilitating streams. What do you advise?

Sincerely

R. Storer

Dear R

To snag or not to snag, that is the question: Whether 'tis effective in the river to form the pools and riffles of needed habitat, or to provide flows against the will of irrigators, and by opposing limit them? To flow, to die no more; and by a flow to mean we end the constant flow and the thousand unnatural shocks that ecology is unused to, 'tis a consummation devoutly to be wish'd.

To live: to feed; to feed: perchance to breed. Ay, there's the success.

And R, thanks. You have taken my obvious limnological skills seriously, and seriously have I answered your question.

Sincerely

Onmil

Ask Onmil
All the tricky limnological etiquette questions you really want answered.....

INFORMATION FROM AND FOR MEMBERS

Photos from the ASL Congress, 2005

Sabine and Patrick De Deckker - Presentation of ASL medal

Sabine with Belinda Robson - winner of the Early Career Award

News update from Australian Biological Resources Study (ABRS)

ABRS will shortly finish two projects that will provide limnologists with very useful tools.

The fish volumes in the Zoological Catalogue of Australia series are in the final stages of preparation. The three volume set will be available by midyear and will include full taxonomic and nomenclatural details, as well as brief information on ecology and distribution. However, we have already made available a checklist of all valid fish species recorded for Australia on the online Australian Faunal Database (AFD).

A very different product, developed by a team led by Phil Suter, will also be available soon through the ABRS website. Habitat Profiles of Selected Aquatic Insects is an intriguing set of hyperlinked interactive .pdf files that you will be able to access for viewing online, down-load for private use, or purchase on CD from ABRS. The project, funded by the Natural Heritage Trust, through ABRS, is based primarily on material and data collected under the Monitoring River Health Initiative (MRHI) and First National Assessment of River Health (FNARH). The study gives valuable insight into the varied habitat requirements of congeneric species and thus has potential for improved taxonomic outcomes from future survey programs, and, importantly, with better understanding of actual habitat parameters, improved predictability of occurrence of species, and effect of impacts on species.

Alice Wells
ABRS

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Jim Peacock new Chief Scientist

The Hon Julie Bishop - Minister for Education Science and Training – has announced the appointment of Dr Jim Peacock as Australia's new Chief Scientist.

I'm sure you will join with me in congratulating Jim on this very significant further milestone in his illustrious career, following on from his 26 years of distinguished leadership as Chief of CSIRO Plant Industry and his recent term as President of the Australian Academy of Science, which he completes this coming May. I have no doubt he will add great value, for the nation, in this very important new assignment.

As you might be aware, this is a part time appointment and Jim will continue his very considerable contributions with us, in leading key science initiatives across CSIRO working closely with me and other senior science leaders in the organisation. I have no doubt, also, that he will continue to craft some quality time to pursue his exciting research ideas in Plant Industry.

Geoff Garrett

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Email Catalogues - Shane Perryman (MDFRC, Wodonga) Andrew Isles Natural History Bookshop, Melbourne

We recently purchased the highly specialised limnology collection of the late Professor Bill Williams, Chair in Zoology at the University of Adelaide. The extensive collection, with over 1000 titles, will feature in a series of email catalogues to be issued over the coming months. We thought these email catalogues would be of interest to the academics and staff of the Water Studies Centre and wondered if the information in this email could be forwarded on to them.

For those interested in receiving these catalogues by email we invite you to visit our website and subscribe to our free email listings:

http://www.andrewisles.com/AndrewIsles/join.cfm

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Introducing LabSearch Australia to Limnologists

LabSearch Australia is a web-based tool designed to promote quality laboratory services and put potential users in touch with laboratories. Laboratories register on the database of LabSearch by providing some basic information sought by Users of laboratory services. Users log on and are asked to provide tick box answers to 7 search criteria on line to receive a short list of 5 Laboratories matching their requirements. Listing is prioritised beginning with laboratories that match most closely to the search criteria. All Laboratories with a 100% match are listed. Laboratories can also find out how many times they appear on the Users' short list at any time.

If you are a laboratory service provider, your capability will be incorporated in a large and growing database of laboratory services from which web users can match their requirements and choose you as their service provider. Users will have six months free use of the web search facility from the time they log on. Users are also offered other services of LabSearch to assist them in choosing a laboratory.

For Users, its free to join for the first six months, after that the annual subscription is $50. For Laboratories, the first 60 to join will be given a free subscription for 6 months, after which an affordable annual subscription of $300 will be charged. For more information log onto the web site: www.labsearch.com.au or call LabSearch Australia on 0431 595 800.

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The AUSTRALIAN SOCIETY FOR LIMNOLOGY MEDAL (ASL MEDAL)

REGULATIONS

The following guidelines have been developed with a view to maintaining a consistent procedure for the Society for awarding the Australian Society for Limnology Medal.

SELECTION CRITERIA

The ASL Medal will be awarded where an outstanding contribution to Australian limnology can be demonstrated by ANY OR ALL of the following:

- **RESEARCH EXCELLENCE**: the nominee has displayed excellence in any of the fields of limnological research, as demonstrated by key research papers and publications, or significant technological advances.
- **EDUCATION AND/OR COMMUNICATION EXCELLENCE**: the nominee has played a significant role in the advancement and dissemination of limnological knowledge, where this has enhanced the knowledge of Australian aquatic systems in a variety of forums.
- **MANAGEMENT EXCELLENCE**: the nominee has played a significant role in the protection, conservation, or management of Australia's limnological resources, and has shown administrative excellence in dealing with limnological issues.

NB. While the terms 'excellent' and 'significant' are relative and open to interpretation, the spirit of the award should be that the person has shown leadership and influenced others to achieve. Further, that influence should be sustained over a number of years. The Medal is not intended for administrative

excellence and service to ASL. These are more appropriately recognised by other awards, such as Life Membership of the Society.

Membership and meeting of the ASL Medal Committee

1. The Committee shall consist of 3 members: The President (or delegate) and two others selected by the Executive. In establishing the Committee, each new Executive should consider an appropriate balance in terms of gender, discipline and backgrounds of research/management, but must ultimately ensure that the Committee has experience in the judgment of limnological excellence. This may include previous recipients of the Medal (or Jolly Award). No one person should sit on the Committee for more than 3 years.
2. The Committee should discuss the award at a meeting or by telephone or by email.
3. The Committee's Chairman will be the President (or nominee) and he/she will be responsible for organising the call for nominations, circulating nominations and arranging suitable meetings for the selection process. The Secretary of the Australian Society for Limnology will provide administrative assistance as required.
4. The Committee will assess nominations and, where it deems that an award should be made, make recommendation(s) to the Executive, through the President (or delegate), for final endorsement. A two-third's majority is sufficient for the Committee to recommend that an award be made.
5. A member of the Executive, or a member of the ASL Medal Committee, may not vote on a nomination where a conflict of interest is likely to occur. If the conflict of interest results in an inoperable Committee, the President (or nominee) is empowered to co-opt from the ASL membership for the purposes of a decision on the nomination.

Nominations

1. Any person may be nominated for the ASL Medal.
2. Only financial members of the ASL may nominate a person for the ASL Medal. The nomination must be in writing and must be seconded by a financial member of the Society.
3. Nominations must include a supporting statement addressing the relevant selection criteria and, if deemed appropriate, a current copy of the nominee's CV.
4. Assessed nominations will lapse immediately. Unassessed nominations (when the Committee has not been able to make a decision) will be forwarded to an incoming Committee.

Citation

The announcement of an award will be made at the annual congress and will appear in the Society's Newsletter accompanied by a citation describing the reasons for the award.

Award Value

The nature and value of the award will be determined by the Executive Committee of the Society. The award will normally constitute a Medal (suitably inscribed), and an economy airfare, registration and reasonable accommodation costs will be paid for the recipient to attend an Annual Congress (see below).

Conditions of the Award

Unless extenuating circumstances are operating, the Medal can only be awarded (and presented) to the recommended recipient in person at the next Annual Congress of the Australian Society for Limnology. In accepting the award the recommended recipient will be required as a condition of the award to present the "Hilary Jolly Memorial Lecture" to be scheduled during the Annual Congress. The Award address should be accompanied by a paper intended for publication in a refereed international journal, and the paper should include a footnote or byline to indicate its significance.

Prepared by a sub-committee of the Australian Society for Limnology, January - June 1998.

The ASL Early Career Excellence Award

PREAMBLE

At the ASL congress in Darwin in 2000, it was suggested that ASL consider providing an award to encourage and reward 'young achievers' in the field of limnological excellence. This could be analogous to the Hynes Award offered by the North American Benthological Society for "excellence in benthic research by an investigator who has recently completed a degree program". Terms and a name for this Award were discussed at the AGM of ASL in Moama in 2001, and the Award was given for the first time in 2002. The following guidelines were developed with a view to maintaining a consistent procedure for the Society for awarding the Australian Society for Limnology Early Career Excellence Award.

AIM OF THE AWARD

The Award aims to recognize and encourage excellence by an early career limnologist (defined below) who has contributed substantially to Australian limnology and/or aquatic ecosystem management.

Guidelines

"Early career" is defined broadly as ≤ 10 years of involvement in a limnological career, and could be judged as commencing with postgraduate work in limnology or membership of ASL. This guideline would be applied at the discretion of the Committee but seeks to differentiate contenders from those for the ASL Medal who are commonly more senior in their career.

Criteria for the Award include:

(i) Current financial membership of ASL;
(ii) Evidence of professional limnological excellence, potentially including successful completion of a Masters or PhD thesis in limnology within the last 10-15 years;
(iii) Tangible evidence of excellence represented by one or a combination of: high quality published papers or other scholarly media; substantial improvements in 'on-ground' water resource management; peer recognition by invitations to speak at conferences or to contribute to special session; overseas experience applied to Australian limnology; excellence in communication, extension and education in limnology.

Process of Selection

Confidential nominations by a member of ASL and seconded by another financial member, must be made to the President (or delegate). To be considered for a given

year's Award, the nomination must be sent to the President (or delegate) at least three months before the Annual Congress. The written nomination must include evidence for the above criteria but must be kept confidential from the nominee, and could include a current CV to support the case if deemed appropriate.

Nominations will be called for each year and an application will hold valid for three years unless successful. There need not be an Award made every year. The winner will be announced at the Annual Congress, and a short report will be published in the newsletter.

Panel Membership

The Panel, comprising at least three ASL members, is chaired by the ASL President (or delegate) who has the power to co-opt panel members as she or he sees fit. It is expected that at least one Panel member will be a previous winner of the Award. In establishing the Committee, there should be an appropriate balance in terms of gender, discipline and backgrounds of research/management, but must ultimately ensure that the Committee has experience in the judgment of limnological excellence. No one person should sit on the Committee for more than three years. A member of the Committee may not vote on a nomination where a conflict of interest is likely to occur. If the conflict of interest results in an inoperable Committee, the President (or nominee) is empowered to co-opt from the ASL membership for the purposes of a decision on the nomination.

The Award

The Award will be a certificate and a financial prize whose value will be determined by the Panel in consultation with the Treasurer. The Award will be presented at an ASL congress where the winner will be asked to present a short address with excerpts for publication in the Newsletter.

SCUTTLEBUTT, RUMOUR AND PRATTLE

Freshwater Ecology, Arthur Rylah Institute for Environmental Research

Oh what a busy time of year! The absence of recent ASL articles would suggest Freshwater Ecology has been slack, disbanded or admitted en masse to the mental asylum. The first two don't apply but I certainly couldn't dismiss the possibility of the latter! Here is the latest news...

Shanaugh McKay, Alison King and Phil Papas are embarking on a new project in the Yea in a number of small headwater systems in the Yea River catchment following recent fires near Kinglake and Yea. Initial phases of the project involve assessment of physical habitat (substrate) and water sampling for turbidity and suspended solids. A small sediment and ash slug has already occurred following recent heavy rainfall, however the slug was of short duration and did not result in any sediment deposition in the stream substrate. In the event of another sediment slug and evidence of deposition at the study streams, invertebrates, biofilm, physical habitat and water quality will be sampled every few weeks. Comparison of this data to extensive data collected from the same streams in February and March 2004 (using the same methods) will enable the effects of fire on biological and physical stream attributes to be determined.

Shanaugh, Phil, Michael Nicol and Dave Bryant have been busy sampling and sorting benthic sediments of the Werribee Western Treatment Plant (WTP). The WTP is run by Melbourne Water and operates as the major sewage treatment plant for the metropolitan area. The WTP, a Ramsar wetland, attracts large numbers of shorebirds which include international migratory species. The high densities of shorebirds are attracted and supported by rich food supplies in local tidal mudflats and the artificial wetlands within the WTP. Melbourne Water Corporation (MWC) has obligations to conserve habitat for these birds, under various legislative instruments and agreements, notably the national Environment Protection and Biodiversity Conservation Act 1999 and the international Ramsar Convention. MWC needs to upgrade its sewage treatment process for discharge into Port Phillip Bay to meet requirements of the EPA. The upgrade is expected to reduce nutrient levels and possibly benthos productivity in intertidal mudflats. Two studies are taking place at Werribee, the first of which relates shorebird densities to densities of prey species (invertebrates). A PhD student has been collecting

hundreds of benthic core samples from tidal and non-tidal mudflats. Initial results show a clear dichotomy between invertebrate samples in tidal mudflats (dominated by molluscs and polychaete worms) and non-tidal mudflats (dominated by chironomid midge larvae). From experience, Shanaugh advises the wearing of waders rather than gumboots at this site - ain't much fun having your boots fill with water, especially since it is known as Borrie Outlet (yuk!!). The second WTP study is an investigation into potential change of benthic invertebrate species as a response to increasing salinity in a treatment lagoon. Salinity increases are expected in the lagoon due to disposal of water treated through a reverse-osmosis system. Any change in the benthic invertebrate assemblage as a result of increasing salinity may have implications for the large numbers of shorebirds relying on benthos as a food source. Once invertebrate species from the samples are identified a risk assessment approach will be applied using methods developed by Bill Dixon on known salinity tolerances of invertebrate species. The WTP projects have been undertaken in collaboration with the Museum of Victoria and Fauna Ecology Research at ARI.

Shanaugh, Phil, Dave and Mike are about to embark on a hectic field season which will see the completion of the autumn round of physico-chemical and macroinvertebrate assessment in the South Gippsland and Latrobe basins (State Rivers Audit). They will also be undertaking ongoing assessment of hydro-electric operations on the Kiewa River in autumn. Di Crowther will be back in time for the latter part of the field season following her sampling the many delights of south-east Asia and simultaneous avoidance of the H5N1 virus!! Di will be involved with the team in the biological and physical assessment of the Thomson and Macalister rivers as part of an environmental flows project for the West Gippsland Catchment Management Authority. Wayne Koster and David Crook have been undertaking the fish assessment component for this project and are currently busy undertaking fish assessments in the Kiewa River for Southern Hydro.

The Wetlands, Biodiversity and Salt project team (Michele Kohout, Keely Ough, Ruth Lennie, Changhao Jin, Derek Turnbull, Belinda Cant and Michael Smith) are still rapidly identifying organisms from their field survey of 60 wetlands and are madly analysing and writing. They have also completed temporal surveys of wetlands in the Wimmera and more spatial stuff in North Central. Derek, Ruth and Keely are running glasshouse experiments to test salinity-biodiversity interactions and Keely is progressing at locomotive speeds towards the end of her thesis. Unfortunately, Sabine Schreiber has left the team to go over to the dark side and is know a valuable member of DSE policy. Shawn Butters, Nathan Wong and Rhonda Butcher are all selling the group their skills and knowledge and the team is still sharing the joy with Monash, Albury and Adelaide.

John Koehn is busily writing away, publishing heaps and getting towards completion of a PhD on the ecology and conservation management of Murray cod. He and Janet Pritchard have obtained funding for a native Fish Strategy for Victorian coastal rivers, which will set priorities and objectives for the rehabilitation of native fishes. This will complement a similar strategy already being implemented in the Murray Darling Basin. The National Recovery Plan for Murray cod, which John is completing with Pam Clunie, is nearing completion before going out for yet another round of stakeholder comments.

Instead of being overwhelmed by mosquitos at Barmah-Millewa Forest, Alison, Zeb Tonkin and John Mahoney, have this season been overwhelmed by baby fish!! The Barmah-Millewa Forest on the Murray River, has this year received an extra ~500GL of environmental water which was used to top-up natural tributary inputs, and created a low-level flood in the Forest from October to December 2005. The flood resulted in a massive increase in spawning activity in golden and silver perch, compared to the previous two dry years. Early results also suggest that there are higher numbers of larvae and juveniles of a number of other species as well. However, the battle of sorting samples versus patience for the results now continues in the lab!

Freshwater Ecology sadly lost Sabine Schreiber to the Water Sector (DSE) in November 2005. Everyone greatly appreciated Sabine's positive and dynamic contribution to FE and we were both sad to see her go but excited for her new opportunity. We know Sabine is finding the position challenging and enjoyable which is fantastic. A huge thankyou Sabine from all in Freshwater Ecology.

By **Di 'Mekong' Crowther**

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News from the Centre for Water Research at The University of Western Australia

i) Singapore National Water Agency uses Western Australian Technology Researchers at The University of Western Australia's Centre for Water Research have just been awarded a $750,000 project by PUB, Singapore's national water agency. The project will be jointly carried out with the Nanyang Technological University in Singapore and has already roused the interest of a panel of world water experts on a recent visit to Singapore.

The technology developed at the Centre for Water Research monitors water quality of reservoirs in real time as well as forecasts or predicts changes in water quality. The technology utilises a sophisticated combination of monitoring equipment, database management, computer simulations, web technology and weather forecasting to provide a real-time decision support system for drinking water reservoirs. The technology is similar to that developed for the Sydney Catchment Authority to manage Sydney's water, and has also recently been recently in Lake Victoria (East Africa) as part of a large World Bank project to manage this important regional resource.

In awarding the project, Harry Seah, Director of PUB's Technology and Water Quality Office said, "Investing in research and development is part of PUB's ongoing efforts to ensure a diversified and sustainable water supply for Singapore. We actively work with leading research institutes, such as the Centre for Water Research to study new technologies and develop new ways to do things better. We believe that the real-time monitoring technology will benefit both PUB and other water agencies in their management of reservoirs. "

Over the next two years the Centre will work with Nanyang Technological University to implement the technology in one of Singapore's reservoirs. If the project is successful, there are plans to eventually introduce the technology to all reservoirs in Singapore including the Marina Reservoir, the country's 15th reservoir and the only one located within an urbanised catchment area in the city. Besides being a source of water supply, Marina Reservoir will also provide flood control with the completion of the Marina Barrage in 2007, and serve as a lifestyle attraction offering a host of recreational possibilities.

ii) UWA PROFESSOR JOINS ENGINEERING'S 'BEST' IN THE US

Professor Jorg Imberger - Founder and Director of the Centre for Water Research at The University of Western Australia - is the only Australian among nine international engineers to have been honoured recently by being elected a Foreign Associate of the United States National Academy of Engineering.

Professor Imberger was previously awarded the Onassis Prize and the Stockholm Water Prize. He is a Fellow of the International Water Academy in Stockholm, and is a Fellow of the Australian Academy of Engineering, the Australian Academy of Sciences and the Australian Academy of Technological Science and Engineering. The Professor of Environmental Engineering will travel to Washington DC in October for the formal inauguration of new US and foreign associate members into the Academy.

Professor Imberger said that he was honoured to be have been elected to the prestigious US body, as only three other Australian's have ever been elected to the Academy since its founding in 1964.

"It is probably the highest achievement one can have in this area and I am overwhelmed because I had no idea that this was happening," he said. "To get this sort of recognition for intellectual achievement across the engineering discipline is quite amazing for someone not working in the United States. It is fantastic!"

The UWA researcher said that he and his students and colleagues at the Centre for Water Research were working on international projects in many different countries. Recently the Centre was awarded a $750,000 project by Singapore's national water agency. The project will use technology developed by the Centre to monitor water quality. The technology uses a sophisticated combination of monitoring equipment, database management, computer simulations, web technology and weather forecasting to provide a real-time decision support system for drinking water reservoirs. Similar technology developed by the centre has been used to manage Sydney's water and to monitor water in a World Bank project in East Africa's Lake Victoria.

"The visibility of the Centre for Water Research around the world is extremely high," he said.

A champion of the environment and sustainability, Professor Imberger said that international water issues were attracting increasing attention and this heightened the need for graduates with environmental engineering skills. The Centre for Water Research attracts postgraduate students from across the world.

Caroline Wood

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Science Meets Parliament

The 7th annual Science meets Parliament was held in Canberra from February 28th to March 1st 2006. Over 200 scientists, each representing a scientific society under the FASTS umbrella, gathered to meet with federal parliamentary Members and Senators to exchange research ideas and learn more about lobbying, the parliamentary process and the world of federal politics.

The event commenced with a day-long workshop on skills and approaches to successfully lobbying parliamentarians, hearing from experienced campaigners and advisors on how to capture (and maintain) the interest of politicians, and enjoying a lunch-time presentation from Julie Bishop MP, the newly appointed Minister for Science, Education and Training, on her vision for the future of Science in Australia. The speech included the announcement of Dr Jim Peacock as Australia's new Chief Scientist. There was also a session on key issues in the development of public policy and knowing when and how to engage with the policy cycle. A consistent theme throughout the day was the 'credibility' we possess as scientists, and the important role of educating the next generation of scientists.

The first day concluded with dinner in the Great Hall in Parliament House. This was an excellent opportunity to network with MP's and Senators in a friendly setting. During the evening I spoke to many parliamentarians on both sides of the political fence, and it was striking how water issues remain a hot topic for each of them despite their varied electorates.

The second day was devoted to formal meetings between a group of up to three scientists meeting with an individual parliamentarian. I met with Ian Causley MP (Member for Page – Grafton region) and Paul Calvert (President of the Senate – Tasmanian Senator). Each of these parliamentarians had nominated 'water' as a priority issue they wished to discuss in meetings. This made it easy to discuss issues such as the National Water Initiative and the National Water Commission. I passed on information on the role of ASL in promoting the sustainable use of Australia's water resources and our collective knowledge on all things aquatic.

The event was a success yet again because it allows a collegiate forum where scientists from a diversity of disciplines can interact and learn more about how to lobby parliamentarians and how our science can influence policy. I have a greater understanding of how science fits into the parliamentary process and each time I return to SmP there is always the opportunity to establish and maintain links with federal politicians. This is an annual event and if the opportunity arises, consider attending to represent ASL, your institution, or even just to see how the science you do can influence policy.

Darren Ryder

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AUSTRALIAN CENTRE FOR TROPICAL FRESHWATER RESEARCH, JAMES COOK UNIVERSITY, TOWNSVILLE

One of several major wetland restoration projects Damien Burrows and Vern Veitch are working on is Lagoon Creek, a 10km chain of deepwater lagoons that are completely covered by water hyacinth mats so thick and well-established, that they have been secondarily colonized by a variety of sedges, grasses and other plants. The entire water column of these lagoons is anoxic and despite having direct estuarine connections, only five, obviously very hypoxia-tolerant, fish species are present. In a joint project with Conservation Volunteers Australia, we are attempting to clear these lagoons as the weed mats are too well-entrenched to be dislodged during normal wet season flows. One recent short flow event raised the water level by 1.5 metres, but the mats merely lifted, allowing the water to flow underneath and then return, completely intact, to their pre-flow position. The size of the lagoons makes extensive mechanical removal cost-prohibitive, so we have since herbicide treated the grasses that grow from the bank edges to break these bindings, and as an experiment, sprayed brine solutions on the central areas of the floating mats to break them up so that they will be more readily dislodged by wet season flow events. The herbicide was effective and the brine greatly affected the sedges, had a minor effect on water hyacinth, but no effect on paragrass. Mother nature has not yet contributed, with the poor wet season to date failing to provide any decent flows to move the treated mats.

We have several projects looking at run-off from catchments to downstream receiving waters but with the paltry wet season experienced in the Townsville region thus far, action has been limited to a series of smaller, more localized events. On the plus side, unlike previous years, no staff have been stranded on the wrong side of flooded rivers and no vehicles abandoned in flooded road-crossings.

Congratulations to Vern Veitch, a recent graduate, now on our staff, who has been awarded the Royal Geographical Society of Queensland prize for the most outstanding geography student. As his new employers, we can attest to the fact that Vern was a very deserving winner of this prize.

ACTFR also welcomes Leo Lymburner and Stephen Lewis to our team. Leo is a remote-sensing specialist, previously from University of NSW – Australian Defence Force Academy, who will be working on delineating riparian condition and function, wetland inventory and ecological character projects, mainly in savanna environments of northern Queensland. Stephen is a recent JCU PhD graduate who studied historical changes in terrestrial run-off to the Great Barrier Reef, climate change and sea-level, using coral records and geochemistry. Stephen is working with Jon Brodie and Zoe Bainbridge on water quality run-off from catchments, and its fate in Great Barrier Reef coastal waters.

Damien Burrows

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University of New England

The start of another academic year also heralds the start of a number of new research projects and postgraduate students in the aquatic group at UNE. Sally Maxwell and Rob Rolls (hereafter referred to as Rollsy) have already ventured into the field just weeks after beginning their PhD projects. Their project will focus on flow and habitat restoration in the Hunter Valley, sampling macroinvertebrates, larval fish and the food webs that entwine them. Rob Veal joins the group to undertake a Masters project examining the interactions of macroinvertebrates and flow in the Nymboida River as part of a broader project to develop a monitoring program to assess the impacts of flow extraction. Megan Purvis has also just commenced her Masters project constructing food webs in the floodplain wetlands of the Macquarie Marshes. And finally, Debbie Burgis has begun selecting sites in the lower Gwydir valley where the interactions among flow, organic matter and productivity will be examined. With funding just through, we will soon be looking for a PhD student to use remote sensing techniques to develop flow-habitat inundation models in the Gwydir to complement Debbie's project.

As cutting edge limnos, we thought we would try something different this issue. Instead of trying to cram all the news into one page, we thought we would provide an exposé of one of our current projects. To kick it off, here is a bit of goss on the underworld of limnology from Peter Hancock.

Aquifer ecology and groundwater management project

The groundwater ecology project funded by ARC, Ecowise Environmental, and the Western Australian Museum is continuing at UNE this year. The project aims to determine how hydrological changes in aquifers that result from mining and irrigation can best be managed to minimise the impact on stygofaunal ecology.

Through a series of laboratory experiments in artificial groundwater environments, PhD student Moya Tomlinson aims to determine the patterns of groundwater removal that provide for the sustainability of aquifer faunal communities. These experiments are about to commence in a converted dark-room, and should yield some very interesting results on the ecology and behaviour of stygofaunal communities. By combining this work with ARC postdoc Peter Hancock's results from field-based experiments and monitoring across three regions, the groundwater project will significantly increase our knowledge of the impacts of groundwater extraction on stygofaunal ecology.

Data gathered to date show that groundwater invertebrate communities in New South Wales are comparable (in terms of species composition and abundance) to aquifer systems around the world. Communities include not only new species of syncarids, amphipods, ostracods, and copepods, but also 2 species of gastropod, a new elmid, and 2 new dytiscids.

Darren Ryder

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FORTHCOMING CONFERENCES / WORKSHOPS

Monday 25 to Friday 29 September 2006
Albury and Wodonga

ASL VOLUNTEERS

The following members have volunteered to speak as experts on behalf of the ASL. If you wish to be included on the list please contact:
Dr R.Marchant (ASL secretary), email: rmarch@mov.vic.gov.au

Prof A. Arthington: in stream flows, ecology of exotic fishes, conservation of rare fishes. Centre for Catchment & Instream Res, Griffith University, Natham Qld, 4111. Phone (07)3875 7403, Fax: (07)3875 7615,
email: a.arthington@mailbox.gu.edu.au

A/Prof P. Boon: bacteriological issues, wetlands. Environmental Management, Victoria University of Tech., PO Box 14428 MMC,
Vic. 3000. Phone (03)9365 2214, Fax (03)9365 2465, email: paul.boon@ vu.edu.au

Dr A. Boulton: intermittent streams, hyporheic zones, aquatic invertebrate ecology. Ecosystem Management, University of New England, Armidale, NSW 2351. Phone (02)6773 3760, Fax (02)6773 2769, email: aboulton@une.edu.au

Dr K.Bowmer: pesticides - fate and ecological impact, aquatic plant management. Charles Sturt University, PO Box 588, Wagga Wagga, NSW 2678. Phone (02)6933 2221, Fax (02)6933 2060, email: kbowmer@csu.edu.au

Dr M. Brock: temporary wetlands, aquatic plants. Centre for Natural Resources, DLWC, PO Box U245, UNE, Armidale NSW 2351.
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Prof. S. Bunn: stream ecology, ecology of riparian zones, biomonitoring. Faculty of Environmental Sciences, Griffith University, Nathan, Qld 4111.
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Dr M.Casanova: charophytes, temporary wetlands
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Phone 03 53506533, Fax 03 53506533 email: amncova@netconnect.com.

A/Prof J.Davis: wetland and stream ecology, ecology of central Australian waterbodies. School of Environmental Studies, Murdoch University, Murdoch WA 6150. Phone (08)9360 2939, fax (08)9310 4997
email: davis@essun1.murdoch.edu.au

Prof. P. De Deckker: salt lakes: biology, chemistry and history; palaeolimnology towards understanding past environmental change.
Dept. of Earth & Marine Sciences, The Australian National University Canberra ACT 0200. Phone: 02 6125 2070, fax: 02 6125 5544,
e-mail: patrick.dedeckker@anu.edu.au

Dr. M. Douglas: tropical freshwater ecology, intermittent streams, tropical floodplains. School of Biological and Environmental Sciences, Northern Territory University, Darwin, NT 0909 Phone: (08)8946 7261, Fax: (08)8946 6847, email: michael.douglas@ntu.edu.au

Dr S.Eberhard: Subterranean wetlands, groundwater ecology, caves, karst
Department of Conservation and Land Management, Woodvale Research Centre, PO Box 51, Wanneroo, WA 6065, Australia
Phone (08) 9405 5183 Fax (08) 9306 1641, email: stefane@calm.wa.gov.au

Dr T. Entwisle: taxonomy and ecology of freshwater macroalgae.
Executive Director, Botanic Gardens Trust, Mrs Macquaries Road, Sydney NSW 2000, Australia.Phone: (02)9231 8112, Fax: (02)9251 4403
email: tim.entwisle@rbgsyd.nsw.gov.au.

Dr M. Finlayson: wetland ecology and management; mining and agriculture impacts; inventory and assessment, Ramsar convention. Wetlands Ecology, IWMI, PO Box 2075, Colombo, Sri Lanka. Phone: +94-11-2787404 extn 1306 Mobile +94-777562217, email: m.finlayson@cgiar.org

Dr A. García: taxonomy, ecology, biology and biogeography of extant and fossil charophytes. School of Earth and Environmental Sciences, University of Wollongong NSW 2522 Phone: (02) 42215966 Fax: (02) 42215703, e-mail: adriana@uow.edu.au

Dr M.Grace: nutrient cycling and biogeochemical processes.
CRC for Freshwater Ecology & Water Studies Centre, Chemistry Department, Monash University, Clayton, Victoria, 3800. Phone (03)9905 4078,
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Dr T. Grant: platypus biology. Biological Science, University of NSW, PO Box 502, Cronulla, NSW 2230. Phone (02)9527 2862, Fax (02)9527 2862, email: t.grant@unsw.edu.au

Associate Professor M. Greenway: Constructed wetlands, Melaleuca wetlands, biogeochemical processes. School of Environmental Engineering, Faculty of Environmental Engineering, Griffith University Nathan Qld 4111. Phone: (07)3875 7486, Fax: (07)3875 7404, email: m.greenway@mailbox.gu.edu.au

Dr M.Harvey: watermites. Western Australian Museum, Francis Street, Perth WA 6000. Phone (08)9427 2737, fax (08)9427 2882, email: mark.harvey@museum.wa.gov.au

K. Hortle: impact of mining, impact of development in SE Asia and PNG on rivers. EMA Pty Ltd, 11 Gallus Close, Vermont, Vic. 3133. Phone and Fax: (03)9873 5887, email: kent_hortle@bigpond.com

A/Prof P. Horwitz: conservation of freshwater invertebrates. Centre for Ecosystem Management, Edith Cowan University, Joondalup Drive, Joondalup, WA 6027. Phone (08)9400 5558, Fax: (08)9400 5070 email: phorwitz@cowan.edu.au

Dr P. Humphries: fish ecology, in-stream flows. CRC Freshwater Ecology, MDFRC, PO Box 921, NSW 2640. Phone (02)6058 2317, Fax:(02)6043 1626 email: hump@mdfrc.canberra.edu.au

Dr G. Jones: cyanobacterial blooms. CRCFE, University of Canberra, ACT 2601. Phone: (02)6201 5168, Fax: (02)6201 5038, email: jones@enterprise.canberra.edu.au

Prof. P.S. Lake: stream ecology, conservation freshwater biota. Department of Biological Sciences, PO Box 18, Monash University, Clayton, Vic. 3800. Phone (03)9905 5653, Fax:(03)9905 5613 email: sam.lake@sci.monash.edu.au

Dr V. Matveev: plankton food webs, biomanipulation. CSIRO Land and Water, 80 Meiers Road, Indooroopilly, Qld. 4068. Phone: (07)3214 2755, Fax: (07)3214 2881, email: vlad.matveev@csiro.au

Dr Kerri Muller: *constructed wetlands, wetlands of the Lower Murray.*
River Murray Catchment Water Management Board, 1 Colman Terrace, Strathalbyn SA 5255. Phone (08) 8536 8125, Fax (08) 8536 8126, email: kerri_muller@triplei.net.au

Dr R. Pearson: tropical freshwater ecology. School of Tropical Biology, James Cook, University, Townsville, Qld. 4811.
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Dr P. Pollard: microbial ecology. Centre for Riverine Landscapes, School of Environmental Engineering, Griffith University, Nathan campus. Qld. 4111
Phone: (07)3875 6597, Fax (07)3875 7404, email: p.pollard@griffith.edu.au
www.microbialecology.org

Dr W.Ponder: taxonomy, biogeography and biology of freshwater mollusca. Invertebrate Zoology, Australian Museum, 6 College St, Sydney NSW 2001.
Phone:(02)9320 6120, Fax: (02)9320 6050,
email: winstonp@amsg.austmus.gov.au

J. Puckridge: ecology of arid zone rivers, ecology of freshwater fish. Department of Environmental Biology, University of Adelaide, Adelaide, SA 5005. Phone (08)8303 5689. Fax: (08)8303 4364, email: jim.puckridge@adelaide.edu.au

Dr N. Rea: wetland plant ecology, water regime, weeds and conservation. Faculty Indigenous Research and Education, NT University, Darwin NT 0909. Phone: (08)8946 6570, Fax (08)8946 6345, email: naomi.rea@ntu.edu.au

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